

**SVKM's**  
**D. J. Sanghvi College of Engineering**

**Program: B.Tech (All Programs)**

**Academic Year: 2022**

**Duration: 3 hours**

**Date: 04.01.2023**

**Time: 10:30 am to 01:30 pm**

**Subject: Product Lifecycle Management (Semester VII)**

**Marks: 75**

**Instructions: Candidates should read carefully the instructions printed on the question paper and on the cover page of the Answer Book, which is provided for their use.**

- (1) This question paper contains two pages.
- (2) **All Questions are Compulsory.**
- (3) All questions carry equal marks.
- (4) **Answer to each new question is to be started on a fresh page.**
- (5) **Figures in the brackets on the right indicate full marks.**
- (6) **Assume suitable data wherever required, but justify it.**
- (7) Draw the neat labelled diagrams, wherever necessary.

| <b>Question No.</b> |                                                                                   | <b>Max. Marks</b> |
|---------------------|-----------------------------------------------------------------------------------|-------------------|
| Q. 1                | Solve Any <b>Three</b>                                                            | 5 × 3             |
|                     | a. What is PLM and discuss the need for PLM.                                      |                   |
|                     | b. Discuss the components of PLM.                                                 |                   |
|                     | c. Discuss the PLM strategy in brief.                                             |                   |
|                     | d. Discuss the PLM paradigm in brief.                                             |                   |
| Q. 2                | a. Discuss the Engineering Design in brief.                                       | 05                |
|                     | b. Solve Any <b>One</b>                                                           | 10                |
|                     | i. Explain the product design process with neat sketch.                           |                   |
|                     | ii. Discuss Design for Manufacturing and Assembly in brief.                       |                   |
| Q. 3                | a. Solve Any <b>Two</b>                                                           | 5 × 2             |
|                     | i. Explain the term Product Data Management.                                      |                   |
|                     | ii. Discuss the barriers in implementation of PDM.                                |                   |
|                     | iii. Explain the Information warehouse and information ware house manager in PDM. |                   |
|                     | b. Discuss the Virtual product development.                                       | 05                |

|      |     |                                                                              |    |
|------|-----|------------------------------------------------------------------------------|----|
| Q. 4 | a.  | Solve Any <b>One</b>                                                         | 08 |
|      | i.  | Discuss the Phases of LCA in ISO Standards.                                  |    |
|      | ii. | Discuss the Environment Strategies in product design with life cycle phases. |    |
|      | b.  | Explain the Useful life extension strategies.                                | 07 |
| Q. 5 | a.  | Discuss the typologies of design process models.                             | 07 |
|      | b.  | Solve Any <b>One</b>                                                         | 08 |
|      | i.  | Explain the Framework of Lifecycle cost Analysis.                            |    |
|      | ii. | Discuss the Field of application & limitations of lifecycle assessment.      |    |